

CHAPTER 16

ADMINISTRATION

This chapter is provided to help you prepare for the “job ahead” and to acquaint you with your duties and responsibilities as an EA3 in a typical SEABEE billet. This chapter also discusses the training requirements and methods of preparing for in-rate advancement and discusses your role, in general, in the overall organization of the Naval Construction Force (NCF).

THE ENGINEERING AID RATING

The Engineering Aid rating is a general rating, as are all others in the Occupational Field 13 ratings. The scope of duties and responsibilities follows.

SCOPE OF DUTIES AND RESPONSIBILITIES

Engineering Aids plan, supervise, and perform tasks required in construction surveying, construction drafting, planning and estimating, and quality control; prepare progress reports, time records, construction schedules, and material and labor estimates; establish and operate a basic quality control system for testing soils, concrete, and other construction materials; prepare, edit, and reproduce construction drawings; and make and control surveys, performing such tasks as running and closing traverses, running level circuits, staking out construction projects, and obtaining other field data necessary for engineering studies or for actual construction of any type of structure that may come under the cognizance of the NCF.

IMPORTANCE OF THE EA RATING

The necessity for naval construction need not be emphasized, and each of the Occupational Field 13 ratings performs a vital and indispensable function in naval construction. In one sense, however, the function of the EA is of special

significance. By merely studying the scope of the EA’s duties and responsibilities, one can deduce that the EA’s functions relate to the WHOLE construction project, rather than to one particular phase of it. From the project’s conception until its final completion report, the EA contributes directly or indirectly towards its completion.

Some of your efforts might not be measurable in terms of work-in-place; however, they may be the deciding factor as to the accuracy and quality of the finished project. Your alertness in compiling man-hour expenditures and progress reports may have alerted the operations officer to see lagging work schedules. This enables the operations officer to readjust timetables and priorities to meet standing completion requirements.

The foregoing are just a few examples of your support to the mission of the NCF. You will encounter and learn a majority of your tasks through on-the-job training (or informal schools). The specific tasks you perform will depend upon your particular duty assignments and the prevailing contingency—operational, logistical, or both. Some of the various support assignments that you, as an EA, might encounter are discussed in later sections.

TYPICAL EA BILLETS

Generally, most of the billets for an EA3 on sea duty are in the Naval Mobile Construction Battalion, commonly called the “green machine.” This is where most of your skills as an EA will be put to use, honed, and tested. The experience you will gather from this type of duty is vast, provided you take on the challenges of your rate. For shore duty, assignment to public works activities is common to an EA3. However, other types of independent sea, shore, or overseas billets are available to you. Ask your leading petty officer (LPO) or your unit career counselor for additional information.

Assignment to an NMCB Operations Department

Normally, EAs reporting to a SEABEE unit for duty will be assigned to the operations department (S-3). The organization of a SEABEE operations department—be it in a staff, in a battalion, or in any detached unit—is similar in basic composition, with minor variations to suit the type of unit, its mission, and the prevailing conditions. In support of the construction organization, the specific functions of the operations department include planning and estimating, engineering, monitoring/reporting, quality control, disaster preparedness, minicomputer operations, and resources control. Figure 16-1 shows a standard organizational chart of a Naval Mobile Construction Battalion operations department. Using this chart as a guide, the operations officer may expand or modify the organization to suit the mission of the battalion and the availability of personnel to fill the billets.

In the following sections you will learn where you fit into the organization and how your duties and responsibilities relate to the functions of the operations department. The information is taken mainly from the *Naval Construction Force Manual*, NAVFAC P-315, and some actual observations currently prevailing in the NMCBs.

ENGINEERING DIVISION.— Most EAs are assigned to the engineering division of the operations department. Therefore, it is important that you become familiar with the overall organization breakdown of the division and the duties and responsibilities of personnel within the division. As you study the following sections, try to visualize how your contributions to the division will assist in accomplishing the overall mission of the division and the mission of the operations department. In other words, see where you fit into the “big picture.”

The engineering division is under the direction of the engineering officer (fig. 16-1), who is normally a Civil Engineer Corps (CEC) officer. The engineering officer and his staff are

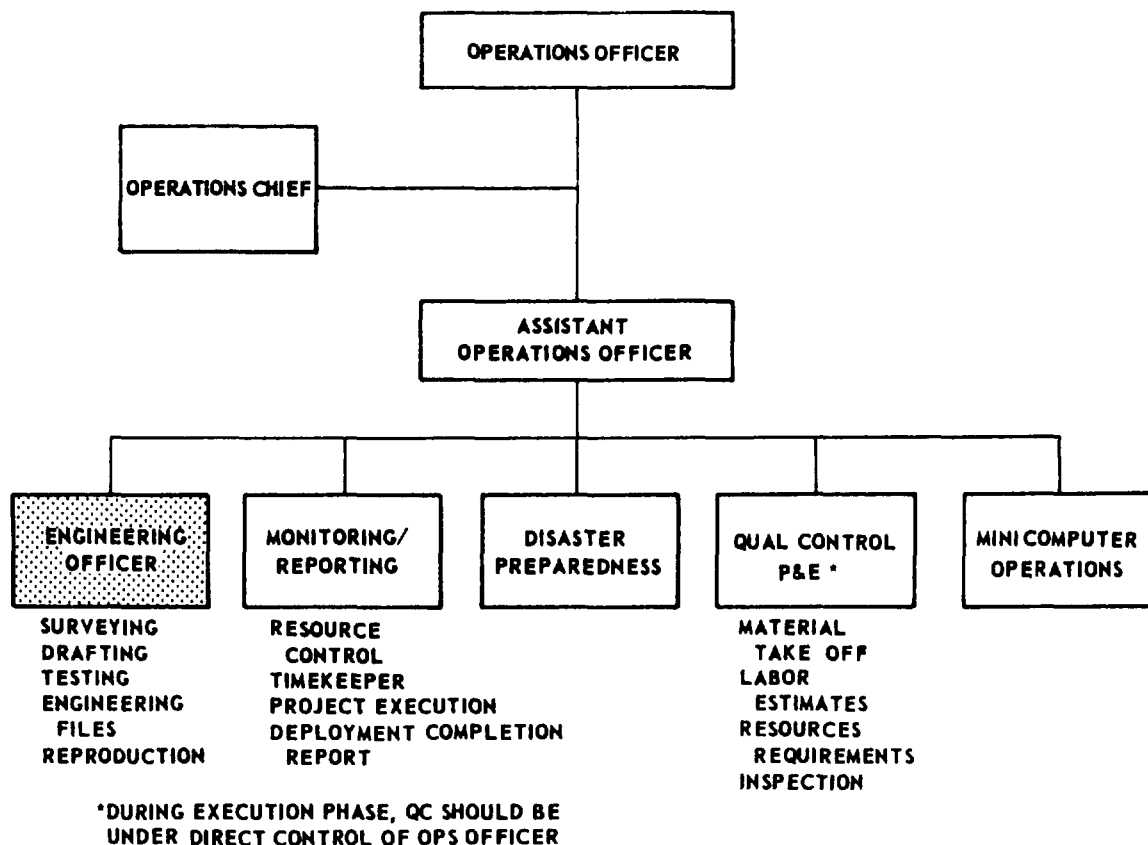


Figure 16-1. Standard operations department organization.

responsible for providing all engineering services and design necessary for the successful conduct of the construction program. Their specific responsibilities are as follows:

1. Providing guidance and support to the company deployment planning team
2. Reviewing all plans for sound engineering practices and practicability of planning and construction
3. Resolving field problems relative to errors or revisions in design
4. Briefing company commanders on engineering aspects of new projects
5. Providing liaison with customers concerning engineering and design
6. Providing liaison with other divisions in the operations department in the interest of the successful conduct of the construction program

The engineering division is also responsible for, and renders technical support in, the following areas:

1. Providing technical engineering construction inspection by the engineering officer on behalf of the operations officer to ensure that projects are built according to the plans and specification and that quality workmanship prevails at all times
2. Providing survey services for the construction companies, as required
3. Providing up-to-date drawings and specifications for projects in progress
4. Providing soils and materials testing and evaluation services
5. Maintaining as-built drawings and providing copies, as appropriate, to customer commands

MONITORING/REPORTING DIVISION.—

The monitoring/reporting division of the operations department is headed by the assistant operations officer. This division is sometimes referred to as the management division of the operations department. The division is normally staffed by the operations Yeomen and the battalion timekeeper. Sometimes the position of timekeeper/computer is assigned to capable EAs.

The monitoring/reporting division collects, compiles, and analyzes all information related to the construction operations. This information is used in the preparation of construction operations reports, including the Deployment Completion Report, the Project Execution Report, the

Monthly Situation Reports, and any other special reports that may be required by higher authority. The engineering division will be required to assist in the preparation of these reports by supplying technical information concerning construction projects. Some reports may be compiled from existing records, and others may require special investigation and research.

For example, let us take the preparation of a Monthly Situation Report. Each battalion submits a monthly report of operations to either COMCBLANT or COMCBPAC (depending on what theater of operation it is in). Copies are sent to the commander, NAVFAC, and to administrative, military, and operational commanders concerned. This report is a concise review of the activities of the battalion during the month, regarding accomplishments, problems, and capabilities. It includes such information as planning, construction, welfare, morale, discipline, safety, training, and equipment. The numbers of officers and enlisted men are shown for the battalion and for all detachments, specifying the method of movement.

Enclosures to the Monthly Situation Report are specified by the commander, NCF. The following are generally included:

1. Progress and performance reports
2. Progress photographs
3. Labor distribution reports
4. Financial reports
5. Equipment status reports
6. Training reports
7. Summary of important events that occurred in the battalion during the reporting period

There are detailed instructions covering the preparation of the Monthly Situation Report and other reports, so your only problem is the compilation of the data that will go with them.

Besides the aforementioned reports, the monitoring/reporting division is responsible for the following:

1. Maintaining a complete status folder on each project
2. Maintaining complete and accurate time-keeping records and labor analysis reports
3. Maintaining and updating visual status boards required for effective construction management including the following: (1) company personnel strength, (2) project status, (3) labor analysis, and (4) project schedules

4. Preparing project completion letters according to applicable instructions from higher authority

5. Maintaining constant liaison with the material liaison officer

The monitoring/reporting division maintains constant coordination and works closely with the quality control or planning and estimating division and the company deployment planning team on the technical aspects of the project, progress reports, and master scheduling.

Assignment to a Typical Public Works Department

SEABEES receiving orders to a shore or overseas shore activity other than a SEABEE staff or school command are normally assigned to the public works department (PWD) of the activity. EAs assigned to PWDs may fill several different types of billets, depending on the organization of the department and the capabilities of the EAs assigned. Although most PWD jobs are filled by civilians, military billets do exist to implement rotation of Occupational Field 13 personnel from sea to shore duty. Most of the EA public works billets are in the engineering division, where the EA works hand in hand with civil service personnel in performing drafting and/or surveying tasks. Senior EAs with planning and estimating or inspecting experience may be assigned to the facilities management engineering division to work as planners and estimators or

maintenance inspectors. Sometimes when there is a shortage of senior military personnel in the facilities management engineering division, EAs and other Occupational Field 13 petty officers are trained for planning and estimating or maintenance inspecting.

A unique situation exists at most public works departments. Your military duties and responsibilities will fall under military supervision, whereas your professional work will be directly supervised by a civilian engineer. Adjusting to this situation may be difficult at first, but as an alert EA, you will benefit from the vast experience of the professional civilian engineer. A good working relationship between you and your civilian co-worker is of the utmost importance. Once this relationship is established, duty at a public works department becomes interesting and rewarding.

The basic organization for a public works department is shown in figure 16-2.

ENGINEERING DIVISION.— The public works engineering division (fig. 16-2) is responsible for all matters pertaining to engineering studies and reports, including preliminary designs and estimates for special repair and improvement projects; for engineering design, including development of plans and specifications; and for the maintenance of technical plan files and records. This division is responsible for preparation of shore facilities development reports and for the submission of basic data required by the NAVFAC engineering field division director for preliminary engineering studies.

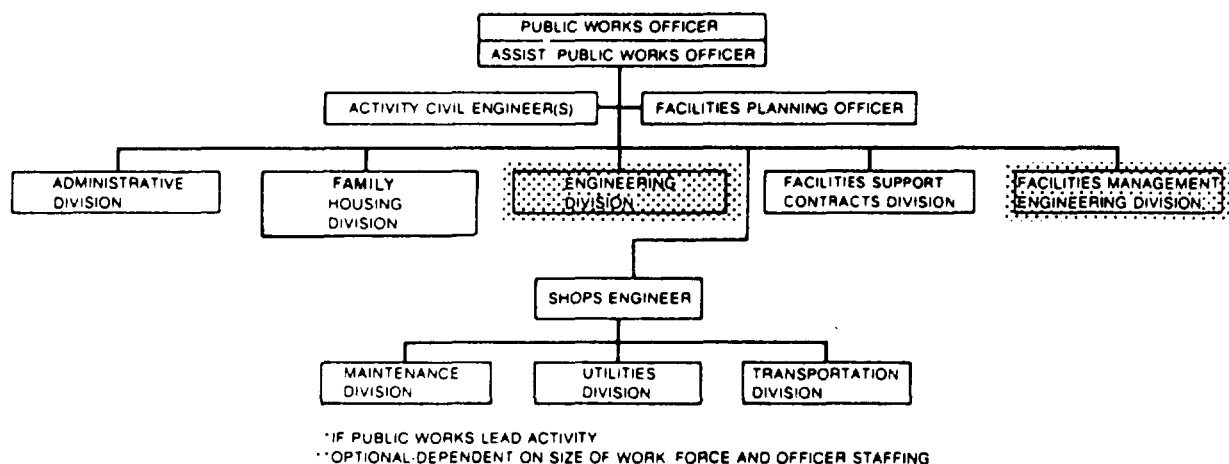


Figure 16-2.-Standard organization for a public works department.

Whenever the work load justifies or requires such action, the engineering division may be subdivided into the following branches:

1. Electrical branch
2. Mechanical branch
3. Architectural and structural branch
4. Civil branch
5. Plans and specifications branch

In some PW departments, it will be desirable to combine the mechanical and electrical branches or to merge the civil branch into the architectural and structural branch. In all cases, surveying work is performed as part of the civil component.

The PW officer establishes an engineering division to handle only routine work. He relies upon the engineering field division of NAVFAC for the design of major public works and public utilities, for the preparation of specifications in connection with them, and for the engineering investigations in specialized fields.

PW departments with limited work load and staffing may combine the engineering and maintenance control components into a single engineering division.

As mentioned previously, the majority of the EAs assigned to public works activities will work in the engineering division. With the exception of supervision, your tasks, such as design, reproduction, surveying, and so forth, will be similar to those performed in the engineering division of the NMCB. Often you will be the only EA assigned to a particular public works activity; therefore, your supervisory duties, if any, will be limited.

MANAGEMENT ENGINEERING FACILITIES DIVISION.— This is the division in the public works department whose entire effort is directed toward maintenance management. It is responsible for the integration of a maintenance work load program; the screening and classifying of all work requests, including emergency-service-type work, before submission to shops for accomplishment; the continuous inspection of public works and public utilities to reveal the need for maintenance work; the preparation of manpower and material estimates for job orders; the determination of the need for engineering advice and assistance; and the initiation of requests to the public works officer for approval to perform work by contract. The facilities

management engineering division may be composed of the following branches:

1. Inspection branch
2. Planning and estimating branch
3. Work reception and control branch

At some PWDs, the inspection branch is supplemented with experienced BUs, CEs, UTs, SWs, and a few EAs with broad construction experience. Public works departments that are primarily staffed with SEABEES may have senior or master chief petty officers for the inspection branch and planning and estimating branch supervisors.

Other EA Billets

As mentioned earlier, you, as an EA, maybe offered a variety of available billets or be given orders to a particular unit as the needs arise. Other types of billets for EAs include assignment to Construction Battalion Units (CBUs), Naval Oceanographic Units, Naval Support Force Antarctica (NSFA), Underwater Construction Teams (UCTs), SEABEE teams, and various other commands. Senior EAs are commonly assigned to SEABEE headquarters or regimental staff; as instructors at one of the Naval Construction Training Centers (NCTCs); as personnel detailers at Naval Manpower Procurement Center (NMPC); and as writers of advancement examinations and training manuals at the Naval Education and Training Program Management Support Activity (NETPMSA).

ADMINISTRATIVE DUTIES

As an EA3, you have a great deal to learn about your profession, including the development of skills related to drafting, surveying, materials testing, quality control, and eventually planning and estimating. However, from time to time, you will be called upon to demonstrate your supervisory abilities. Your duties and responsibilities as a supervisor will probably be limited, but they will gradually increase as you advance in your career development.

Becoming an EA3 is a big step in your naval career. The Navy imposes special trust and confidence in you. In return, the Navy expects you to be professionally competent and capable of instructing and supervising your subordinates. Your example of leadership and responsibility will

influence others, so you must always exhibit a strong sense of personal integrity and dedication to your work and to the Navy.

The most challenging task you will have is adjusting to your role as a supervisor. Now is the time to start preparing yourself for the job ahead. Prior knowledge of both professional and administrative duties will put you ahead. Proper training and diligent study will prove itself beneficial when you are called upon to lead others.

To help you prepare for the job ahead, we will acquaint you with some of the common administrative and professional duties and responsibilities of an EA3. We will not attempt, however, to discuss the basic techniques of leadership; they are adequately covered in *Military Requirements for Petty Officer Third Class*, NAVEDTRA 10044, and *Military Requirements for Petty Officer Second Class*, NAVEDTRA 10045 (latest revisions). You need to carefully review those basic leadership techniques and apply them, where applicable, in all phases of your job. Also, in this section, you will learn to recognize the scope of other general duties and responsibilities associated with an EA3 in a typical SEABEE billet or assignment.

Several other administrative duties and responsibilities that you, as an EA3, may be exposed to or tasked with in your current assignment may be that of an EA2 or higher. You will notice that this section, for the most part, will discuss only your duties as outlined in the current EA3 occupational standards.

ASSIGNMENT AS TEAM LEADER

Normally, assignment as team, party, or crew leader is awarded to you at the EA2 level. However, in some cases in which you hold seniority in years over the rest of the junior personnel assigned to your team or section, you will be called upon to perform EA2 duties and occupy a position of higher responsibility. EA3 supervisory roles have been, at most times, assignments as party chief of a survey crew or a drafting room supervisor.

In general, your duties as a crew leader or party chief will involve planning work assignments, supervising, coordinating your work with the work of other teams, initiating requisitions, and keeping time cards. Information

that will aid you in carrying out these duties is given below.

Planning Work Assignments

Proper planning saves time, effort, and money for the Navy and makes the job easier for all concerned parties. The following pointers will help you in planning day-to-day work assignments.

UNDERSTAND THE TASK CLEARLY.—

When you are assigned a task, whether in writing or orally, the first thing you should do is make sure you fully understand just what is to be accomplished. Don't be afraid to ask questions. Find out the answers from those in a position to supply the information you need. Make sure you know the priority of the project, required time of completion, and any special instructions that must be followed. When the task is assigned orally, take detailed notes. Don't leave anything to memory; you might forget important information or instructions. A good supervisor carries a notebook at all times.

KNOW THE CAPABILITY OF YOUR CREW.— You should always consider the capability of your crew when planning for the accomplishment of each assigned task. With this in mind, you can determine who is to do what and how long it should take to finish the job. Realizing that idleness tends to breed boredom and discontent, plan to have another job ready to start as soon as the first one is finished.

ESTABLISH DAILY GOALS.— Each work-day, encourage your crew to work together as a team to accomplish these goals. You want your goals to be such that your crew will be kept busy, but make sure they are "realistic" goals. During a contingency, people will make a tremendous effort to meet the deadline. But these people are not machines. When there is no anticipated urgency, they cannot be expected to continuously achieve an excessively high rate of production. In your planning, you should allow for those things that do not contribute directly to the accomplishment of the assigned task, such as in-house technical training, safety stand-down and other administrative matters.

SELECT PROPER METHODS, EQUIPMENT, AND SUPPLIES.— When you are planning an assigned task, you should consider every possible method that could be used to accomplish

the task. If there is more than one way of doing a particular job, make sure the method you select is the best way. After selecting a method, analyze it to see if it can be simplified with a resultant saving in time and effort.

When you are planning for surveying operations, a vital step is the selection of proper required equipment and supplies. Proper selection of surveying equipment may greatly affect the end result of a survey. Forgetting to bring certain equipment or supplies to the jobsite is one of the most common mistakes made by supervisors. Nothing is more frustrating than to arrive at the jobsite only to discover that "someone" forgot to bring a tripod for the transit. The best way to minimize this embarrassing situation is to prepare an equipment and supply checklist for each job assignment and double-check the list after gathering all the items to make sure nothing was omitted. If more than one job is planned, include sufficient equipment and supplies to accomplish all jobs.

The same planning steps apply to drafting assignments. Certain drafting assignments are difficult to accomplish without proper equipment and supplies. As you gain experience, you will devise methods that will enable you to improvise with the equipment and supplies you have on hand.

Supervision

After a task has been properly planned, it is necessary to supervise the job carefully to ensure that it is completed properly, safely, and on time. Some pointers that will aid you in supervising work teams are outlined below.

KEEP THE CREW WELL INFORMED.—

Before starting a job, make sure your crew knows what is to be done. Give instructions clearly and urge your people to ask questions about any points that are not clear to them. Explain how the job is related to other jobs and to the overall mission. Make sure that each crew member knows exactly what is expected of him and what his responsibilities are.

A crew performs much more efficiently when it is well informed. Be sure each crew member knows all pertinent safety precautions and wears safety apparel where required. Check all equipment and tools before use to ensure they are in safe condition. Do not permit the use of dangerously defective tools and equipment; see that they are turned in for repair immediately.

While the job is under way, check from time to time to ensure that the work is progressing satisfactorily. Determine if the proper methods and equipment are being used. If a member is doing a job incorrectly, stop him and point out his mistakes. Then explain the correct procedure and check to see that he follows it. In checking the work of your crew, try to do it in such a way that your men will feel that the purpose of your checking is to teach, guide, and direct, rather than to criticize and find fault.

When time permits, rotate your crew members to various jobs. Rotation gives them varied experience and will help ensure your having somebody who can do the work if a member is hospitalized, transferred, or on leave.

SEEK TEAMWORK.— A good supervisor should be able to get others to work together in getting the job accomplished. You should maintain an approachable attitude towards your men, making them feel free to come to you and seek your advice when in doubt at any time during the project. Emotional balance is especially important; a supervisor cannot become panicky before his men, unsure of himself in the face of conflicting forces, or pliable with influence. You should use tact and courtesy in dealing with your men and not show partiality to certain members of the work team. You should keep your men informed on matters that affect them personally or concern their work. You should also seek to maintain a high level of morale, keeping in mind that low morale can have a definite effect upon the quantity and quality of work turned out by your men.

The above is only a brief treatment on the subject of supervision. As you advance in rate, you will be spending more and more of your time in supervising others, so let us urge that you make a continuing effort to learn more about the subject. Study books on supervision as well as leadership. Also, read articles on topics of concern to supervisors, such as safety, training, job planning, and so forth, that appear from time to time in trade journals and other publications. There is a big need in the Navy for petty officers who are skilled supervisors. So, consider the role of supervisor a challenge and endeavor to become proficient in all areas of the supervisor's job.

Cooperation

If a project is to run smoothly and be completed on time, all crew leaders or supervisors

must coordinate their work efforts and cooperate with one another as one big team. Most surveying operations are performed to guide the work done by other construction crews. You must therefore work closely with other crew leaders to ensure that your surveys are timely and do not delay the overall project. Cooperation with other supervisors will eliminate many problems that would otherwise arise when you are coordinating work efforts. In effect, you are merging your ideas and efforts to make the project run smoothly.

Cooperation is also essential to your success as a drafting supervisor. Consult the Builder crew supervisor on design problems and construction methods. Spending too much time on unnecessary details could delay the job if the Builders are awaiting the drawings to start the job. So right from the start, get into the habit of cooperating with other supervisors, and you will soon gain their respect as well as the respect of your superiors and your crew members.

MAINTAINING FILES

Maintaining file records, or simply "filing," is one job an EA needs to learn fast and well. When you are transferred to a new unit or command, chances are good that you will be involved in organizing and keeping track of a variety of engineering drawings normally found in the drafting and reproduction section. Your biggest challenge in filing is to make it possible for any single drawing (sheet), as well as the record pertaining to that particular drawing, to be readily located. Since most filing cabinets or protected stowage receptacles are limited in space, you may develop an ingenious approach to a highly organized filing system.

You must keep in mind that each engineering drawing is commonly identifiable by a drawing number assigned by the agency (such as NAV-FACENGCOM) that made the drawing. The first major file breakdown for drawings, then, is a breakdown into separate files for the different agencies that have supplied the drawings. Within each agency file, the most convenient way to file drawings and prints is by the numerical sequence of drawing numbers.

Filing Original Copies

Original drawings and sepia copies are filed flat-NEVER folded. For large size originals, use shallow-drawer file cabinets of the type shown in figure 16-3. Smaller size drawings are generally

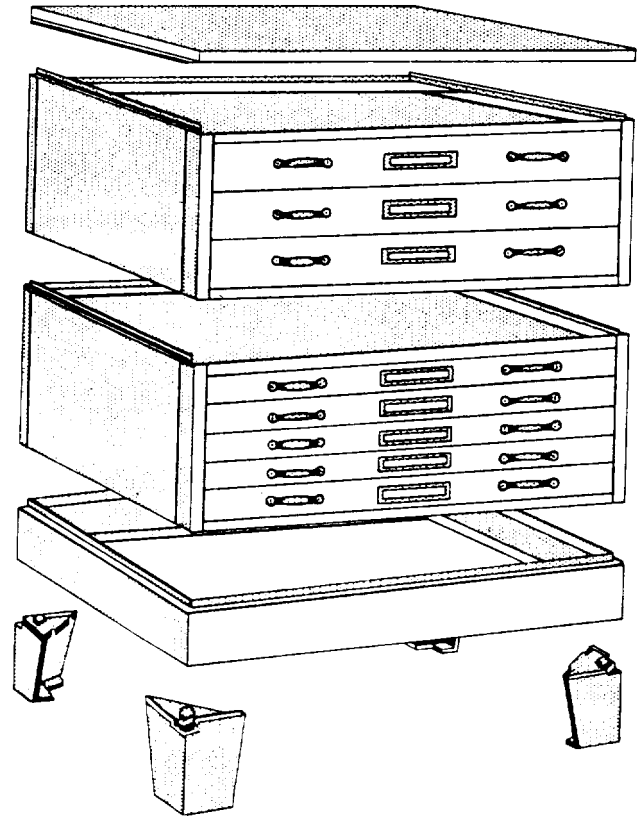


Figure 16-3. Shallow-drawer cabinet for filing large original drawings, tracings, and negatives.

stowed on edge in the standard deep-drawer-type cabinet, as shown in figure 16-4. Each drawer is divided into compartments by stationary partitions, and in each compartment there is a "compressor spring" to keep the drawings on edge and in a compressed stack.

Filing Prints and Data

Prints are handled in a manner appropriate for their current status. Prints of drawings for active projects are generally placed on STICK FILES for easy reference. Stick files are either manufactured metal components or locally prepared strips of wood. Inactive prints, such as those from completed projects and some as-built drawings, are either stowed flat in shallow-drawer file cabinets (fig. 16-3) or folded and stowed in the standard deep-drawer-type cabinet (fig. 16-4). Extra sets of project drawings are sometimes rolled and stowed in some type of cylindrical plastic or cardboard tube.

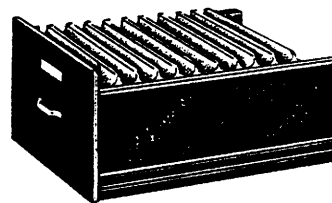
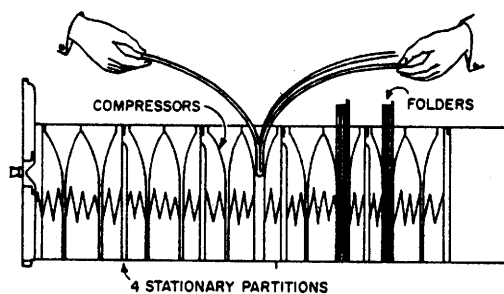


Figure 16-4.—Drawer of cabinet used for filing small original drawings, tracings, and negatives.

A print larger than size B is folded in accordion-pleat type folds in such a manner as to ensure that the drawing number is outside after the print has been folded. Final folded size should be 8 1/2 by 11 in. You should make yourself a plastic or plywood 8 3/8- by 10 7/8-in. "folding guide" or procure a ready-made one. The steps in folding a large print are as follows:

1. First, fold the print into 10 7/8-in. lengthwise accordion-pleat folds. Lay the print face-down, and start by turning the edge containing the drawing number, using the folding guide, as shown in figure 16-5. Use a small block of wood, like the one shown in the figure, to compress the crease.

2. Turn the print over and make the next lengthwise fold, as shown in figure 16-6. Continue turning over and folding until the width of the drawing is used up.

3. Place the lengthwise-folded drawing so that the side on which the drawing number appears is down. Begin at the end that contains the drawing number, and make the first 8 1/2-in. crosswise accordion-pleat fold, using the folding guide, as shown in figure 16-7.

4. Turn the print over and make the next fold. Continue until the length of the drawing is used up.

Data related to drawings discussed above, such as correspondence, should be filed according to SECNAVINST 5210.11 (series), or if a limited number of drawings are affected, they can be filed by drawing numbers in a separate drawer or cabinet. If a separate folder for each project is

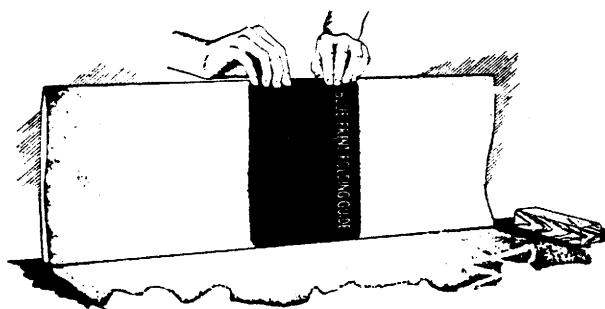


Figure 16-6.—Making second lengthwise fold in a large print.

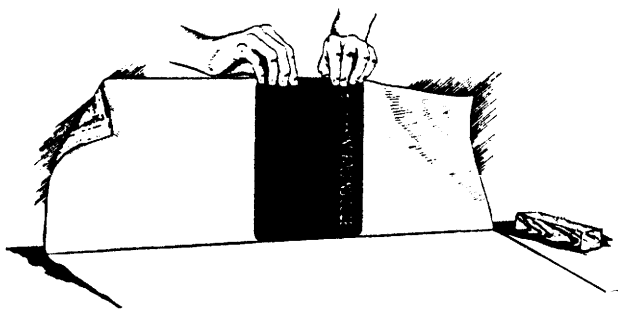


Figure 16-5.—Making first lengthwise fold in a large print.

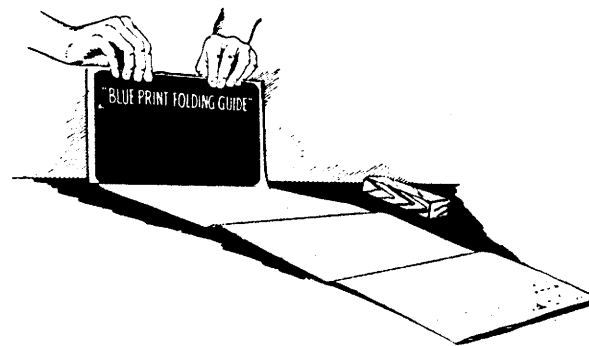


Figure 16-7.—Making first crosswise fold in a large print.

maintained, such data must be filed in the related projects folder.

Recording Files

A record of each drawing should be kept on an INDEX CARD in a suitable file drawer. A card similar to that shown in figure 16-8 may be used. A brief description of the information to be entered in each of the numbered spaces shown on this card is as follows:

① The standard subject identification code (numerical and/or name title). These classification codes are prescribed in the Department of the Navy *Standard Subject Identification Codes Manual*, SECNAVINST 5210.11 series. A copy of this instruction is available in your personnel office and in your technical library. The classification systems in this manual are designed to meet the needs of the entire Department of the Navy for a single, standard subject scheme to be used in numbering, arranging, filing, and referencing various types of Navy and Marine Corps documents by subject.

The Subject Identification Codes System is generally used by large shore activities, such as public works departments, Naval Construction

Battalion Centers, or regimental headquarters. For smaller mobile units, such as an NMCB, the drafting room supervisor, the quality control (QC) staff, and EAs assigned to various detachments may devise their own indexing systems for field drawings according to the volume of records handled by the unit.

② The agency drawing number (NAV-FACENGCOM DWG No.).

③ The title of the drawing, taken from the title block.

④ Cross-index references to any correspondence or data that may be on file relating to the drawing.

⑤ Number of the agency letter, if any, that was forwarded with the drawing.

⑥ and ⑦ The number and name of the A & E firm, contractor, naval shipyard, or other agency that actually made the drawings.

⑧ Applicable unit or vessel.

Again, if a separate folder or drawer file is maintained for each project, a notation must be

① (SSIC)	②		④ CROSS-INDEX/PROJECT NO.
(AGENCY DWG NO)			
③ PLAN TITLE			
(DRAWING TITLE)			
⑧ APPLICABLE UNIT (NMCB, DET, ETC)			
⑦ CONTRACTOR OR AE		⑤ AGENCY LETTER NO	
⑥ CONTRACTOR OR AE			

Figure 16-8. Sample of a drawing file index card.

placed in the folder as to where to find the drawings related to that project. The project number will appear in the cross-index block ④ of the index card. You may, however, modify your index card to accommodate additional information or to suit the requirements in your unit.

PROFESSIONAL DUTIES

On the technical side, you, as an EA3, assigned to a typical SEABEE battalion, have a variety of jobs to choose from or to be assigned to. The sections within the engineering division to which you may be assigned are the drafting/print-reproduction section, the surveying section, and the materials testing section. Some of your duties and responsibilities while assigned to these sections are presented in the following paragraphs.

ASSIGNMENT TO DRAFTING/ REPRODUCTION SECTION

When you are first assigned to the drafting section, you are usually tasked with the simplest drafting or reproduction tasks so that the experienced drafting crew may be freed for more complicated work. These tasks also serve as training for the inexperienced draftsman. Your drafting assignments should include, in general, a variety of engineering services requests, such as reproduction of prints, preparation of charts, revising working drawings, preparing simple construction and fabrication drawings from sketches, and performing other EA3-related office jobs. Other EA-related tasks may include preparing overlay maps for operational, logistics, and/or contingency needs; performing operator's maintenance of reproduction machines; lettering, using the Kroy machine; plastic and metal engraving; maintaining a complete up-to-date technical library; and assisting other divisions and sections within the operations department as directed by the drafting supervisor.

Reproducing Blueprints

Quite often, the bulk of your job in the drafting section during home port is to reproduce several project drawings needed for planning and material estimates by the different construction crews and details. Failure to produce required quantities on time could have an adverse effect on the whole construction project planning and execution. To achieve maximum production, it

is essential that every draftsman be properly trained to perform this assigned task. An experienced EA3 must be able to plan ahead to make sure that sufficient quantities of basic reproduction material requirements, such as print paper, are on hand and that the reproduction machine is in good working condition. Along with other preparations, you, as an EA3, need to learn to properly store blueprint paper and ammonia. Procedures related to the care and use of reproduction machines and supplies were discussed earlier in chapter 3.

Maintaining a Technical Library

Another important responsibility of the drafting section is that of establishing and maintaining an engineering technical library of current reference publications. The library is used by all personnel of the operations department as well as by anyone else in the battalion who requires technical information. To render service to others, the library must be maintained in an orderly manner.

Normally, the collateral duty of a librarian will be assigned to an EA3 working in the drafting room. He is responsible for arranging the publications, indexing, checking in and checking out publications. He is also tasked with packing the entire library for embarkation during overseas deployment.

Minimum requirements for a technical library are contained in a current COMCBPAC 5070 series instruction. The instruction includes all administrative, military, and technical library requirements that have to be met by each construction battalion. Publications not listed in the COMCBPAC instruction are included in appendix 11 of this training manual. Additional publications may be required depending on the particular mission of the battalion at each deployment.

It is essential that the librarian constantly monitor the technical library and know where each publication is at all times. Loss of important reference publications could cause delays in solving engineering problems. Security of frequently borrowed publications and a good checkout system will help prevent the loss of important publications.

ASSIGNMENT TO SURVEYING SECTION

One of the main units of the engineering division is the surveying or field engineering

section. This section, like the drafting reproduction section, falls under the direct supervision of an EA1, depending on the number of senior EAs on board and their surveying experience. The size and organization of the entire surveying section will vary with the anticipated work load.

Your job, as an EA3, along with the other crew members in this section, is to carry out the scope of the tasks and responsibilities required of the surveying section. Depending on the overall mission of the battalion, typical surveying tasks may include the following: collecting field data and sketches for design purposes; conducting surveys for horizontal construction (roads, airfields, aboveground and belowground utilities); conducting layout surveys for vertical construction (buildings, retaining walls, waterfront structures, and so forth); developing level nets and level loops to establish vertical control; developing triangulation networks to establish horizontal control; and measuring structures in place for the purpose of preparing as-built drawings.

Versatility of the surveying section is essential to the accomplishment of all the assigned tasks. Sometimes all crews are used on one phase of the surveying task; at other times, crews are shuttled from one phase to another. Basically, for most surveying tasks, personnel are organized into two types of surveying parties: the TRANSIT PARTY and the LEVEL PARTY. They are named after the type of surveying instrument used.

ASSIGNMENT TO MATERIALS TESTING SECTION

EAs assigned to the soils laboratory are tasked with performing tests on such items as subbase materials, aggregates, and concrete and bituminous mixes to determine if these materials meet specified quality requirements. You, as an EA3, may be tasked to perform some of these tests together with a more experienced EA. Chapter 15 of this book can serve as a guide for a review of some of the tests commonly performed by an EA3.

As you gain experience in testing different types of materials used in construction, you may be tasked to work with the quality control section of the operations department. EAs assigned to the material testing section work closely with the QC staff in several areas, such as in testing materials to ensure that their inherent character meets minimum requirements; interpreting results of tests conducted on soil, concrete, and asphalt; and

preparing reports of the tests performed by the testing section.

CAREER DEVELOPMENT

To get ahead, you, as an EA3, must meet certain requirements that have been prescribed for your paygrade and rating. These requirements are referred to as standards. Since these standards deal with the technical or occupational subject matter of each rating, they are called occupational standards. Occupational standards may be found in the *Advancement Handbook for Petty Officers*, NAVEDTRA 71365 (fig. 16-9).

In addition to the occupational standards prescribed for each rating, there are certain military requirements to be met. The military requirements for advancement are discussed briefly later in this chapter and are discussed in detail in special training manuals prepared to cover the military requirements for advancement.

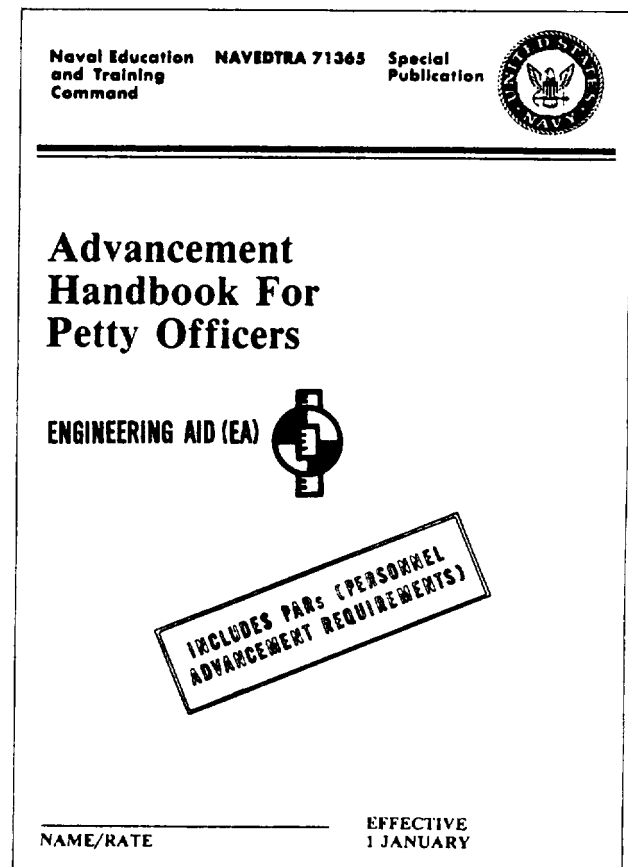


Figure 16-9. Cover page of *Advancement Handbook for Petty Officers (EA)*, NAVEDTRA 71365.

These military requirements are called naval standards.

The advantages of developing your career and getting ahead are not yours alone. The Navy also profits. Highly trained personnel are essential to the functioning of the Navy. By each advancement, you increase your value to the Navy in two ways. First, you become more valuable as a specialist in your own rating. And second, you become more valuable as a person who can train others and thus make far-reaching contributions to the entire Navy.

Many of the rewards of the Navy life are earned through the advancement system. The basic ideas behind the system have remained stable for years, but specific portions may change rather rapidly. It is important that you know the system and follow the changes carefully. One handbook that will normally keep you up to date regarding the basic advancement requirements is the *Advancement Handbook for Petty Officers*, NAVEDTRA 71365. The handbook outlines the Navy Advancement System in general and provides you with information about advancement paths, eligibility requirements for advancement, professional development, exams, and exam scoring. It contains naval and occupational standards with their supporting bibliographies and also personnel advancement requirements (PARS) certification.

One of the most useful things you can learn about a subject is how to find out more about it. No single publication can give you all the information you need to perform the duties and responsibilities of the EA rating. You should learn where to look for accurate, authoritative, up-to-date information on all subjects related to the naval and occupational standards of your rating.

Some publications are subject to change or revision from time to time—some at regular intervals, others as the need arises. When using any publication that is subject to change or revision, be sure that you have the latest edition. When using any publication that is kept current by means of changes, be sure you have a copy in which all official changes have been made. Studying canceled or obsolete information will not help you to do your work or to advance; it is likely to be a waste of time and may even be seriously misleading.

PERSONNEL READINESS CAPABILITY PROGRAM

The Personnel Readiness Capability Program (PRCP) provides a standard means of identifying, collecting, processing, and utilizing information on all members of the Naval Construction Force, both active and reserve. This information can be used by all levels of management and supervision to determine a unit's readiness capability by comparing it to actual or planned requirements.

The majority of PRCP information consists of an inventory of individual skills acquired through formal or on-the-job training. A record of these skills, combined with other data from the service record, such as expiration of enlistment, rotation data, and so forth, provides a ready means of predicting future capabilities and requirements. Some of these may be the following:

- a. Construction and military capabilities
- b. Personnel, logistics, and training requirements
- c. Berthing, messing, and housing requirements
- d. Contingency requirements

Your initial PRCP skill inventory will be based upon an interview with your crew/squad leader or another senior petty officer of your rating. Special PRCP Interviewer's Standards and Guides have been prepared to assist persons conducting interviews. Each "Guide" contains a detailed explanation of every skill identified in the PRCP. These definitions are standard throughout the entire Naval Construction Force, and any person, regardless of duty assignment, can turn to these standards and know what is expected in a given skill area.

During an interview, it is imperative that you discuss your capabilities openly and honestly. Remember, if you exaggerate, you may be depriving yourself of valuable and needed training. Then too, you may be the one selected to do that special job all on your own. Will you be ready?

A more detailed discussion of the Personnel Readiness Capability Program may be found in chapter 2 of *Engineering Aid 1 & C*, NAVEDTRA 10635-C.

SOURCES OF INFORMATION— GOVERNMENT

There are various government publications that you may find useful as sources of reference. A number of publications issued by the Naval Facilities Engineering Command (NAVFACENG-COM) that will be of interest to you are listed in the *Documentation Index*, NAVFAC P-349 (updated semiannually). The publications are generally classified as follows: Design Manuals (DMs); Technical Publications (TPs); Maintenance and Operations (MOs); and Administrative Information (P).

NAVFAC publications should be available in your battalion technical library or in the engineering division of the public works activity. Their titles are self-explanatory and you can consult the publications that contain the subject matter in which you are interested. Suggested publications that should be in the engineering section of the battalion technical library are listed in appendix II.

Some Air Force Manuals (AFMs) and Army Technical Manuals (TMs) have subjects that are related to the Engineering Aid rating. They may be available in the technical library of the battalion; if not, they are easily ordered through the normal naval supply procurement system. TMs and AFMs of particular importance to you are included in the engineering section of the battalion technical library listing in appendix II of this manual.

To improve your ability in preparing any type of construction drawing, you should also refer to training manuals of other Occupational Field 13 ratings, especially those for the E-4 level.

Detailed standards for armed forces drawings are set forth in *Military Standards*, published by the Assistant Secretary of Defense (Supply and Logistics), Office of Standardization. Any Navy activity can obtain copies of these standards by writing to the Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120. A complete and up-to-date copy of each of these standards is a must to have in any drafting room library of the SEABEES.

SOURCES OF INFORMATION— COMMERCIAL

To keep up to date on the current progress of new equipment and on the new materials related to your rating, you will find that the best source of information is commercial publications. These publications may be in the form of a textbook or an operation manual for a particular instrument. The instrument operation manual can be obtained from instrument manufacturers or dealers. On the other hand, textbooks are to be purchased. Your technical library may, however, have some of them on hand.

Every EA should strive to acquire at least a few textbooks for his personal use by purchasing them himself, if feasible. The knowledge and skill you learned through formal studies and on-the-job training in the SEABEES must be supplemented continuously with off-hours studies on your own initiative. This will not only broaden your knowledge but will also enhance your chances of getting a high score in Navy-wide professional examinations.